

CLAIMS

What is claimed is:

1. A method of interfacing to a system comprising:
 receiving voice input data from a user;
 identifying a language spoken by the user from the voice input data;
 converting the voice input data into a first text in the identified language by
 recognizing the user's speech in the voice input data based at least in part on the
 language identifier;
 parsing the first text to extract a keyword; and
 using the keyword as a command to an application.

2. The method of claim 1, further comprising:
 receiving results to the command;
 converting the results into a second text in a natural language format
 according to the identified language; and
 rendering the second text for perception by the user.

3. The method of claim 2, wherein rendering comprises converting the
 second text into speech and rendering the speech to the user.

4. The method of claim 1, further comprising translating the keyword into
 a plurality of languages other than the identified language and using the
 translated keywords as the command.

5. The method of claim 2, further comprising using the keyword as a
 search query to a search engine, wherein the results comprise search results
 from the search engine operating on the search query.

1 6. The method of claim 2, further comprising automatically summarizing
2 the results prior to converting the results to the second text.

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1 7. The method of claim 2, further comprising translating the keyword into
2 a plurality of languages other than the identified language and using the
3 translated keywords as a search query to a search engine, wherein the results
4 comprise search results from the search engine operating on the search query.

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1 8. The method of claim 7, further comprising translating search results in
2 languages other than the identified language into the identified language.

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1 9. The method of claim 1, wherein the application comprises a web
2 browser.

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1 10. The method of claim 9, wherein the web browser interfaces with a
2 search engine and the command comprises a search query.

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1 11. The method of claim 9, wherein the web browser interfaces with a
2 shopping web site and the command comprises at least one of a purchase order
3 and a request for product information.

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1 12. The method of claim 1, wherein the speech comprises conversational
2 speech.

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1 13. An article comprising: a storage medium having a plurality of machine
2 readable instructions, wherein when the instructions are executed by a
3 processor, the instructions provide for interfacing to a system by receiving voice
4 input data from a user, identifying a language spoken by the user from the voice
5 input data, converting the voice input data into a first text in the identified
6 language by recognizing the user's speech in the voice input data based at least
7 in part on the language identifier, parsing the first text to extract a keyword, and

8 ~~using the keyword as a command to an application.~~

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1 14. The article of claim 13, further comprising instructions for receiving
2 results to the command, converting the results into a second text in a natural
3 language format according to the identified language, and rendering the second
4 text for perception by the user.

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1 15. The article of claim 14, wherein instructions for rendering comprises
2 instructions for converting the second text into speech and rendering the speech
3 to the user.

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1 16. The article of claim 13, further comprising instructions for translating
2 the keyword into a plurality of languages other than the identified language and
3 using the translated keywords as the command.

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1 17. The article of claim 14, further comprising instructions for using the
2 keyword as a search query to a search engine, wherein the results comprise
3 search results from the search engine operating on the search query.

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1 18. The article of claim 14, further comprising instructions for
2 automatically summarizing the results prior to converting the results to the
3 second text.

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1 19. The article of claim 14, further comprising instructions for translating
2 the keyword into a plurality of languages other than the identified language and
3 using the translated keywords as a search query to a search engine, wherein the
4 results comprise search results from the search engine operating on the search
5 query.

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20. The article of claim 19, further comprising instructions for translating search results in languages other than the identified language into the identified language.

21. The article of claim 13, wherein the application comprises a web browser.

22. The article of claim 21, wherein the web browser interfaces with a search engine and the command comprises a search query.

23. The article of claim 21, wherein the web browser interfaces with a shopping web site and the command comprises at least one of a purchase order and a request for product information.

24. The article of claim 13, wherein the speech comprises conversational speech.

25. A language independent voice based user interface system comprising:
 a language identifier to receive voice input data from a user and to identify the language spoken by the user;
 a speech recognizer to receive the voice input data and the language identifier and to convert the voice input data into first text based at least in part on the language identifier;
 a natural language processing module to parse the first text to extract a keyword; and
 a natural language generator to convert second text into a natural language format according to the identified language.

26. The system of claim 25, further comprising a text to speech module to render the second text audibly to the user.

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1 27. The system of claim 25, further comprising a language translator to
 2 translate the keyword into a plurality of languages, and to translate the second
 3 text into the identified language prior to converting the second text into the
 4 natural language format.

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1 28. The system of claim 25, further comprising an automatic
 2 summarization module to automatically summarize the second text prior to
 3 converting the second text into the natural language format.

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1 29. The system of claim 25, wherein the system is coupled to a web
 2 browser.

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1 30. The system of claim 29, wherein the web browser interfaces with a
 2 search engine, the keyword comprises a search query for the search engine, and
 3 the second text comprises search results from the search engine.

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1 31. The system of claim 30, further comprising a language translator to
 2 translate the keyword into a first plurality of languages for use as the search
 3 query, and to translate the second text into the identified language prior to
 4 converting the second text into the natural language format, the second text
 5 comprising text in a second plurality of languages.

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1 32. The system of claim 29, wherein the web browser interfaces with a
 2 shopping web site and the keyword comprises at least one of a purchase order
 3 and a request for product information.

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1 33. A language independent voice based search system comprising:
 2 a language identifier to receive voice input data from a user and to identify
 3 the language spoken by the user;

4 a speech recognizer to receive the voice input data and the language
 5 identifier and to convert the voice input data into first text based at least in part
 6 on the language identifier;
 7 a natural language processing module to parse the first text to extract a
 8 keyword;
 9 a search engine to use the keyword as a search term and to return search
 10 results;
 11 a language translator to translate the keyword into a plurality of languages
 12 prior to input to the search engine and to translate the search results into second
 13 text in the identified language when the search results are in a plurality of
 14 languages; and
 15 a natural language generator to convert the second text into a natural
 16 language format according to the identified language.

1 34. The system of claim 33, further comprising an automatic
 2 summarization module to automatically summarize the second text prior to
 3 converting the second text into the natural language format.

1 35. The system of claim 33, further comprising a text to speech module to
 2 render the second text audibly to the user.